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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/581,318	06/02/2006	Peter Hesoun	35947-231351	3651
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VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998				
EXAMINER				
FORD, JOHN K				
ART UNIT		PAPER NUMBER		
3744				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/581,318

Applicant(s)

HESOUN ET AL.

Examiner

John K. Ford

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 2,5 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 06022006
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Applicant's supplemental response of August 6, 2009 identifying claims 1, 3, 4 and 6-9 as readable on the elected species of Figure 1 with an axial flow fan placed below the heat exchanger is acknowledged. For reasons explained in the 35 USC 112, second paragraph, rejection set forth below the examiner disagrees with applicant's identification of claims 3 and 9 as readable on the elected species. Applicant also (briefly) repeats that the election is made with traverse, a point that the examiner addresses immediately below.

Applicant's election on April 10, 2009 of the first species of Figure 1, with an axial flow fan positioned below the heat exchanger is also acknowledged (as it is illustrated in Figure 1). Applicant's traverse based on the fact that the IPRP does not include a lack of unity is acknowledged, however since the IPRP indicates the claims (and the examiner is unsure if they are the same claims being examined here) to be allowable, a lack of unity would have been superfluous. The present examiner has found other prior art (i.e. not in the IPRP) and maintains that a lack of unity is proper since there is no allowable generic claim. The election requirement is therefore deemed proper and made final.

Claim interpretation:

Functional language in the claims is treated consistent with MPEP 2114, incorporated here by reference. That is to say, functional language in the claims is not

extended significant patentable weight in assessing the patentability of the underlying apparatus. The apparatus claims are examined for what the claimed structure is, not what it does or how it is put together.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 9 do not appear to be readable on the elected species of Figure 1, with an axial flow fan positioned below the heat exchanger and are therefore deemed to be mis-descriptive under 35 USC 112, second paragraph. Regarding claims 3 and 9, Figure 1 is shown and described as a single pipe embodiment. Non-elected Figure 2 has a double pipe and U-bend, not the elected Figure 1. Either designate claims 3 and 9 as non-elected or amend them to be descriptive of the elected species of Figure 1.

Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is unclear how one is supposed to assess the term "arbitrarily positioned" in this claim. How would the would-be infringer know if he was infringing the claim? Neither the specification nor the claim sets gives any guidance as to which positions would be "arbitrary" and which positions would not be "arbitrary." The would-be patent owner would no doubt find any position that the would-be infringer decided to place his fan to be "arbitrary." Likewise the would-be infringer would no doubt find any position that the would-be infringer decided to place his fan to be anything but arbitrary (e.g. deliberately chosen to be next to a seat but not blowing directly on the person seated there). The term "arbitrary" is not quantifiable and therefore renders the claim vague and indistinct.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 6, 7, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of WO 01/89867 (applicant cited) or DE 19708815 (applicant cited) or Korean 2003-0031372 in view of Willingham (USP 4,257,554).

WO 01/89867 (applicant cited), DE 19708815 (applicant cited) and Korean 2003-0031372 each individually teach a heating element module for a bus with at least one

fan or blower forcing the air to be discharged toward the bottom of the module enclosing the heat exchanger. There is no disclosure in the English language in any of these documents as to how their respective fans are attached to the heating element module.

Figure 2 of Willingham shows fan module that is selectively attachable to a heat exchanger. To have used this fan module in place of any of the fans of the prior art (i.e. in place of fan 5 of WO '867 or fan 2 of DE '815 or fan 30 of KR '372 would have been obvious to one of ordinary skill in the art. Such a fan module would advantageously reinforce the heat exchanger as discussed in Willingham, col. 9, lines 32-65, incorporated here by reference as well as in facilitate placement close to where the seats were located in the bus.

The fan module of Willingham is "adapted for attachment" to either face of the heat exchanger to which it is attached. Furthermore, fan 5 of WO '867 or fan 2 of DE '815 are both mounted upstream of the heat exchanger in the direction of flow whereas the fan 30 of KR '372 is mounted downstream, suggesting that exact placement (upstream or downstream) is a design matter, reflecting the same non-criticality of location that is evident in applicant's discussion of the same in applicant's own specification.

Regarding claims 3 and 9, to the extent that applicant's claims are descriptive of his own elected species, they are deemed to be descriptive of the references used in this rejection. See the 35 USC 112, second paragraph, rejection above.

Claims 1, 3, 6, 7, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of WO 01/89867 (applicant cited) or DE 19708815 (applicant cited) or Korean 2003-0031372 in view of Willingham (USP 4,257,554) as applied to claims 1, 3, 6, 7, 8 and 9 above, and further in view of JP 1-160722.

While the heat exchangers of WO 01/89867 (applicant cited), DE 19708815 (applicant cited) and Korean 2003-0031372 are shown schematically, it is well known that they are formed with finned tubes as disclosed in JP 1-160722, if applicant intends to argue this well known and conventional construction for a heat exchanger in a transportation vehicle with sidewall heat exchangers.

Claims 1, 3, 4, 6, 7, 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of WO 01/89867 (applicant cited) or DE 19708815 (applicant cited) or Korean 2003-0031372 in view of Willingham (USP 4,257,554) as applied to claims 1, 2, 3, 5, 6, 7, 8, 9 and 10 above, with or without JP 1-160722, and further in view of JP 1-266465.

To have made the fin spacing in the prior art heat exchangers very close in the immediate vicinity of the fan as shown in Figure 2 of JP '465 would have been obvious to one of ordinary skill in the art to improve heat exchange, by forcing the air to be drawn over the whole heat exchanger, not just the portion closest to the fan.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John K. Ford whose telephone number is 571-272-4911. The examiner can normally be reached on Mon.-Fri. 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John K. Ford/

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Primary Examiner, Art Unit 3744